

New Jersey's Health Care Industry Cluster

Prepared by:
New Jersey Department of Labor & Workforce Development
Office of Research & Information
Bureau of Labor Market Information
Winter 2021-2022



STATE OF NEW JERSEY
DEPARTMENT OF LABOR AND
WORKFORCE DEVELOPMENT



NEW JERSEY DEPARTMENT OF
LWD
LABOR AND WORKFORCE DEVELOPMENT
nj.gov/labor

THE GOAL OF THIS REPORT IS TO GET AN “IDEA” OF WHAT HEALTH CARE MEANS TO NEW JERSEY

Identify the types of industries and establishments that make up the health care cluster based on a standard industry classification system

Describe any similarities and differences among its components with regard to such variables as employment, wage, occupation type, education, and demographic characteristics

Examine any present distinctions within the cluster and its components that give New Jersey a competitive advantage compared to neighboring states, regions or the nation, or show areas where New Jersey could improve to add to the state’s economy

Analyze the current state of the health care cluster and provide an outlook for employment into the future



NEW JERSEY HEALTH CARE HIGHLIGHTS

- The health care cluster contributed over \$44 billion to the Gross Domestic Product in 2020, roughly 8.2 percent of all output
- From 1990 through 2020, the health care sector has added 234,200 new jobs, while all other private sector employment has had a net increase of 211,400 jobs
- Health care is the only industry that has added jobs in the state every year from 1990 through 2019 while increasing its share of jobholding from 7.5 percent in 1990 to 12 percent in 2019
- Health Care experienced a modest loss 21,700 jobs in 2020 due to the COVID-19 shutdown
- The outlook for health care employment is bright. From 2018 through 2028, it is projected that 64,860 jobs will be added, an annual increase of 1.2 percent
- Health care employers paid nearly \$30.3 billion in total wages in 2020, or about 12.8 percent of all wages paid in the private sector



OVERVIEW

There are roughly 22,995 establishments employing nearly 460,612 people of all ages, genders, races, and educational backgrounds in New Jersey in 2020. The majority of these establishments are smaller offices of health care professionals, however, nearly one-third of all employment is found in hospitals.

Occupations found in the healthcare industry vary as much as any other industry. Professionals who have earned the most advanced educational degrees frequently work in teams with those with lesser training. In fact, the majority of occupations in health care do not even require a two-year degree. Average salary tends to correlate with education; the more you learn, the more you earn.

The profile of the average worker in the health care industry is overwhelmingly female and possesses at least some postsecondary education. The workforce is more racially diverse than average, and does not currently face the magnitude of unemployment as is felt in some other industries.

INDUSTRY ANALYSIS



The health care sector can be divided into three major components

Ambulatory Health Care Services

- Offices of Physicians
- Offices of Mental Health Physicians
- Offices of Dentists
- Offices of Chiropractors
- Offices of Optometrists
- Offices of Mental Health Practitioners
- Offices of Specialty Therapists
- Offices of Podiatrists
- Offices of Miscellaneous Health Practitioners
- Family Planning Centers
- Outpatient Mental Health Centers
- HMO Medical Centers
- Kidney Dialysis Centers
- Freestanding Emergency Medical Centers
- Medical Laboratories
- Diagnostic Imaging Centers
- Home Health Care Services
- Ambulance Services
- Blood and Organ Banks

Hospitals

- General Medical and Surgical Hospitals
- Psychiatric and Substance Abuse Hospitals
- Other Hospitals

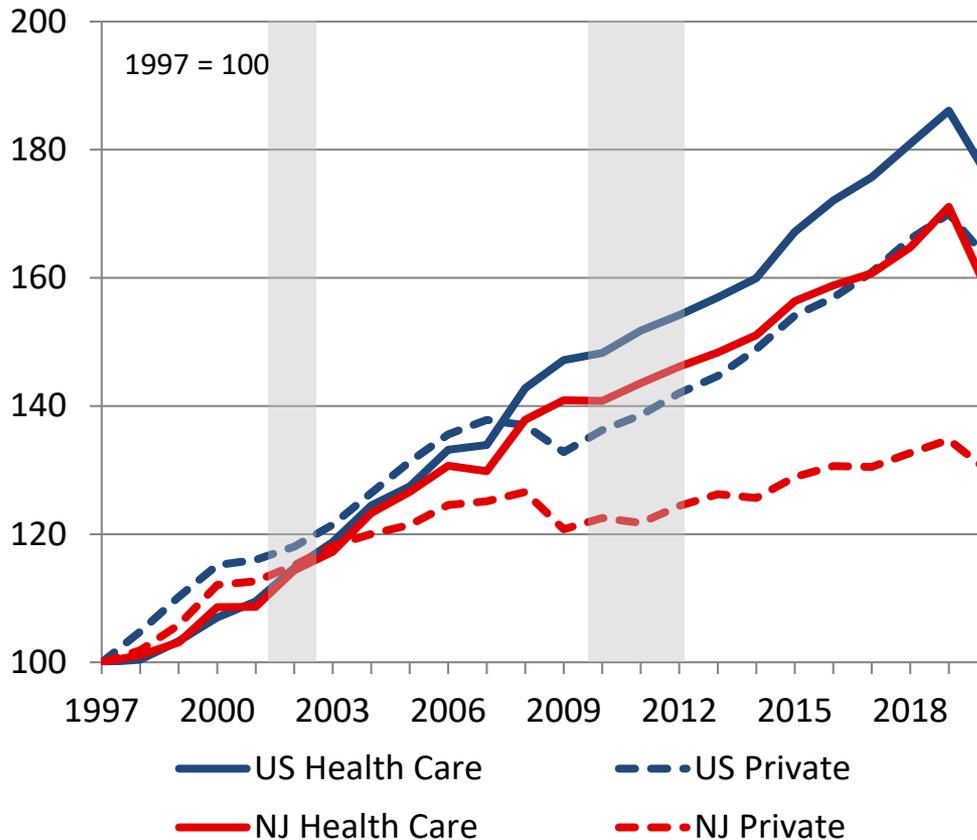
Nursing and Residential Care Services

- Nursing Care Facilities
- Residential Intellectual and Development Disabilities Facilities
- Residential Mental and Substance Abuse Care
- Continuing Care Retirement Communities
- Homes for the Elderly



Gross Domestic Product growth created by the health care industry has been strong and steady over the past 20 years

Indices of GDP in Chained 2012 Dollars
New Jersey and United States: 1997-2020



Output generated from the health care industry in New Jersey has increased steadily from roughly \$25 billion in 1997 to over \$44 billion in 2019

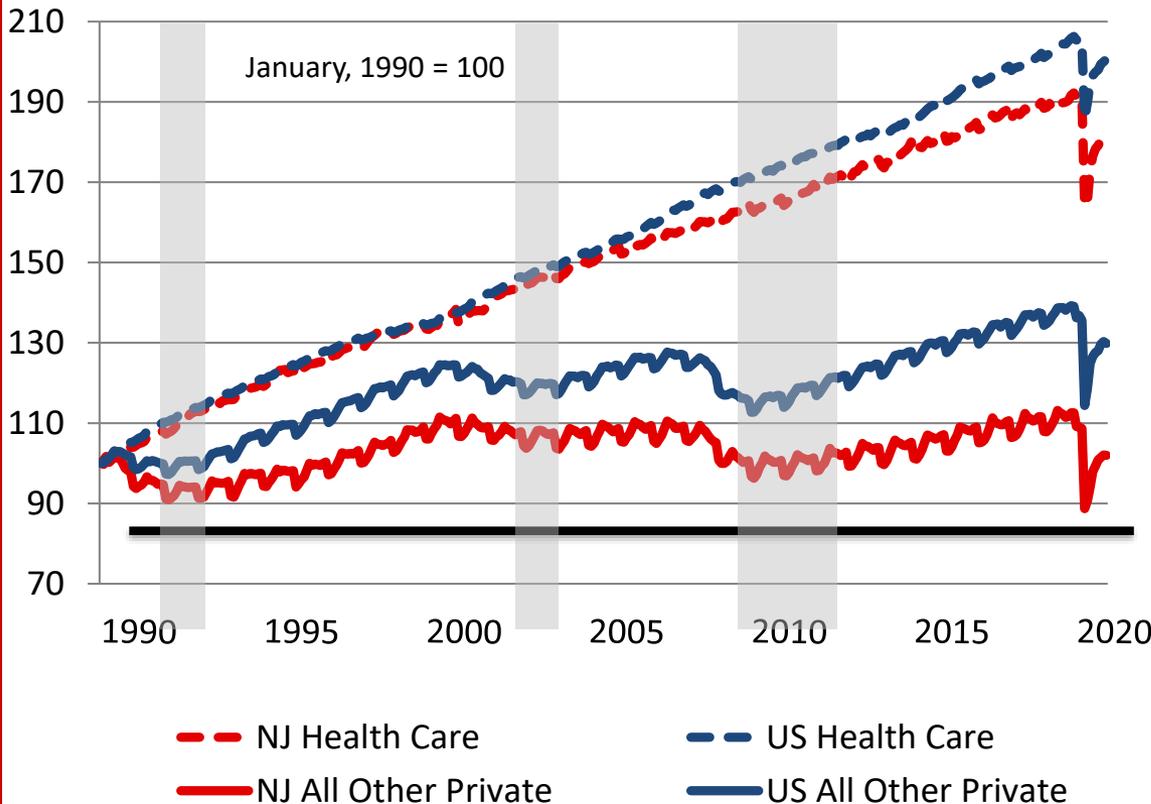
GDP in the health care industry in the United States exceeded \$1.2 trillion in 2016

There remains a sizable gap in GDP growth between New Jersey and the United States for both the health care industry and all private industries

Shaded areas indicate recessionary periods as determined by the National Bureau of Economic Research

The health care industry has been the key driver of private sector employment at both the state and national levels

**Health Care and Other Private Sector Employment
New Jersey & United States: 1990-2020**



New Jersey has followed the national trend very closely, but starting in 2005 the nation pulled ahead in terms of faster growth

All other private sector employment has grown at a much slower pace, has experienced seasonal ebbs and flows, and has been susceptible to downturns during recessions

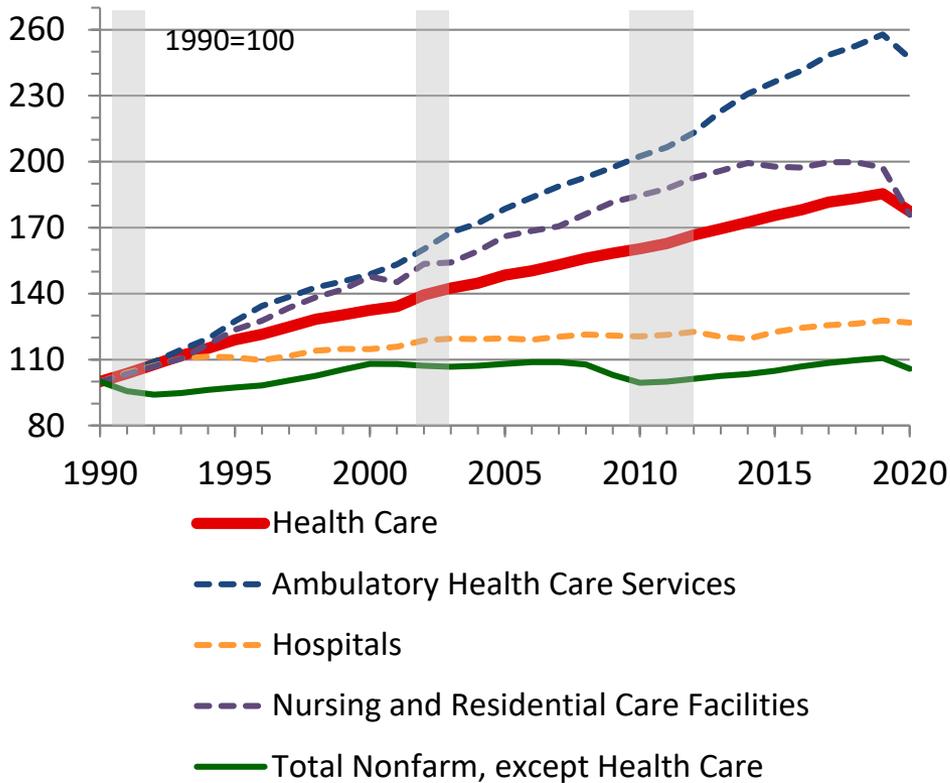
From 2000 to 2020, New Jersey has added 127,600 new health care jobs while the rest of the private sector gained approximately 13,400

Shaded areas indicate recessionary periods as determined by the National Bureau of Economic Research



The health care industry has been the driving force of employment in New Jersey over the last two-plus decades

Employment Index for Health Care vs. All “other” Industries
New Jersey: 1990-2020



From 1990 through 2020, the health care sector has added 210,000 new jobs, accounting for 80 percent of all private nonfarm job growth during that time

Employment in Ambulatory Health Care Services more than doubled over the last 30 years

Employment in Nursing and Residential Care Facilities has nearly doubled from 1990 to 2020

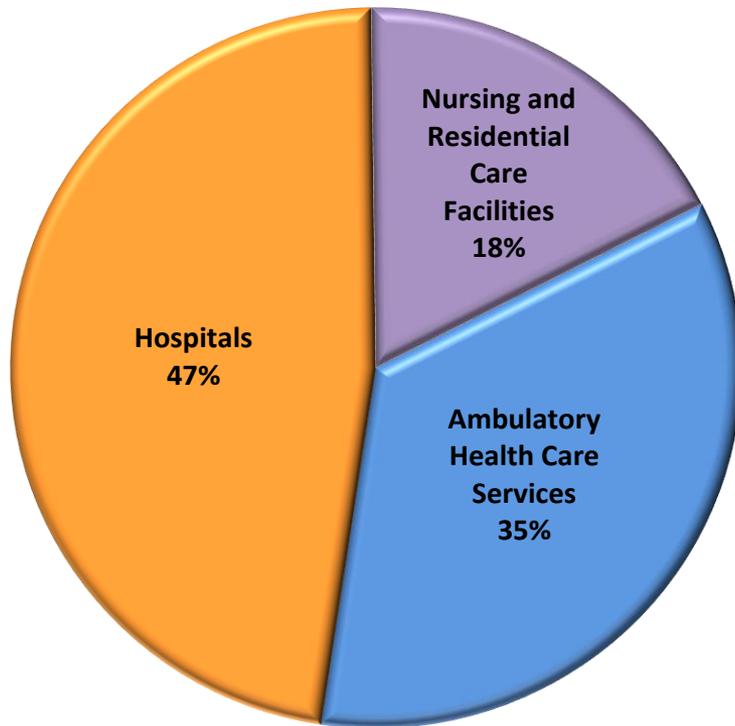
Slow yet steady growth in Hospital employment has led to it being the laggard among health care’s three major components

Shaded areas indicate recessionary periods as determined by the National Bureau of Economic Research

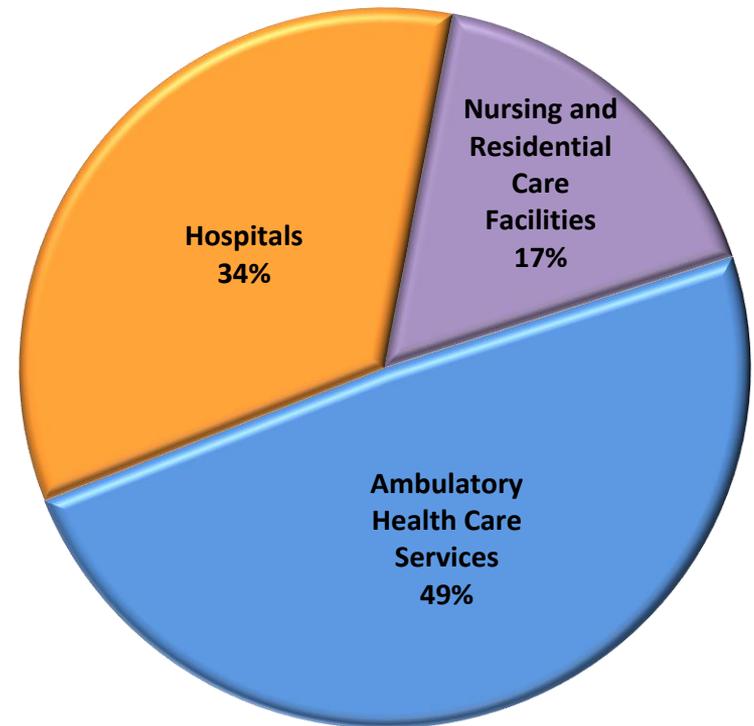
The landscape of health care delivery has changed dramatically over the past 30 years

Employment of Components as a Percentage of Total Health Care
New Jersey, 1990 & 2020

1990



2020



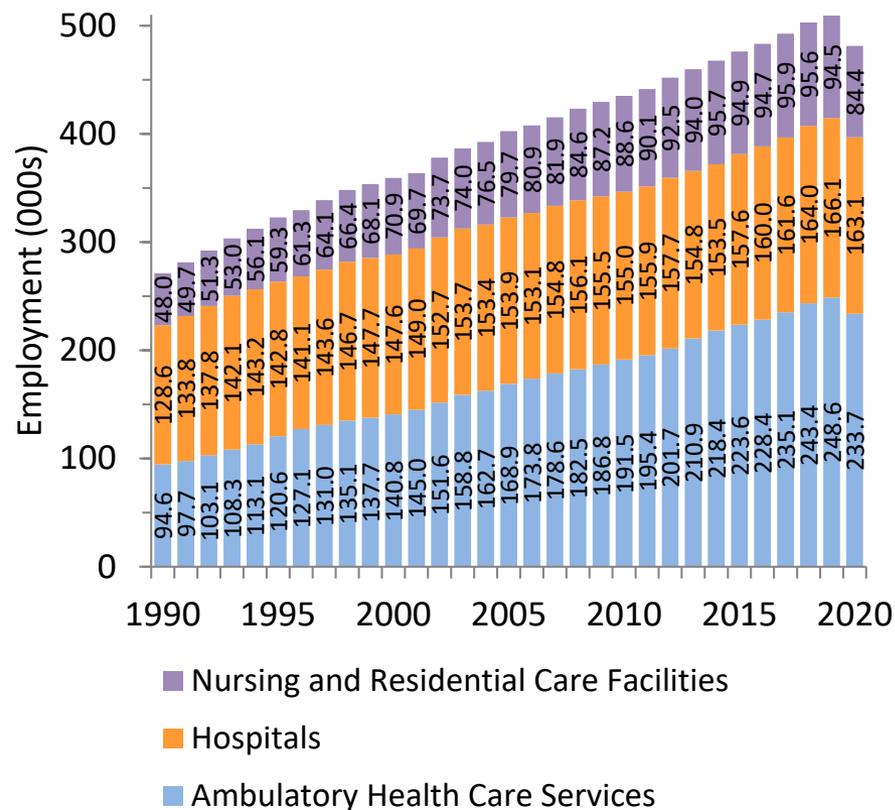
With employment surpassing 481,200, the health care sector accounted for 12.5% of all employment in the state in 2020, up from 7.5% in 1990

Ambulatory Health Care Services surpassed Hospitals as the top employer in the Health Care sector in 2003, and has widened the gap every subsequent year

Nursing and Residential Care Facilities, the smallest component, has grown more than double the annual rate (2.9%) of Hospitals (1.2%) since 1990

Together, the three Health Care components have grown by 2.9 percent annually since 1990, compared to only 0.1 percent for all other total private nonfarm employment

Employment in Health Care Components
New Jersey, 1990-2020



A closer view of the Great Recession and subsequent recovery highlights the stability of health care employment compared to the rest of the private sector

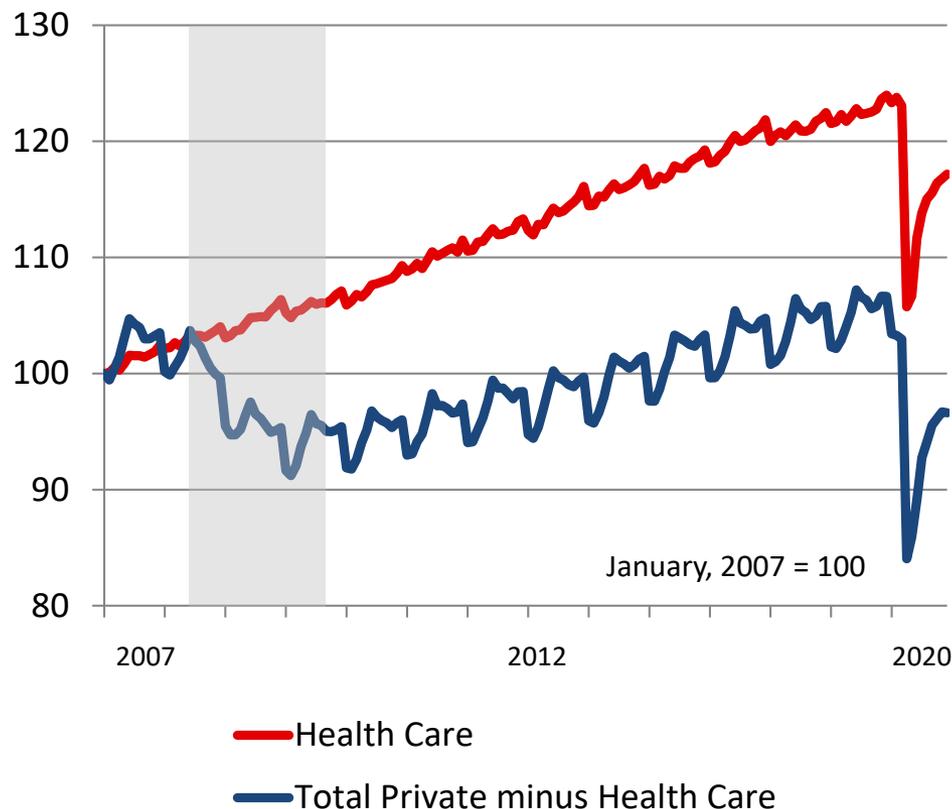
New Jersey's private sector employment reached its not seasonally adjusted pre-Recession peak of nearly 3.5 million jobs in June of 2007

During the 18 months when the recession officially occurred, the health care sector still added nearly 10,000 jobs while the remainder of the private sector lost roughly 175,000

Since the official end of the recession in June of 2009, the health care industry has continued its steady growth while all other private sector employment is just surpassing the point of full recovery

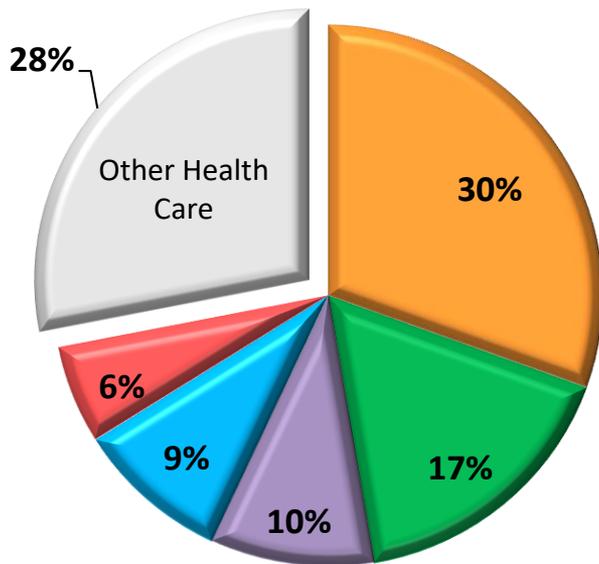
Shaded areas indicate recessionary periods as determined by the National Bureau of Economic Research

Employment in Health Care and All Other Private Sector
New Jersey: January, 2007-December, 2020



In 2020, roughly 72 percent of all health care employment in New Jersey is found in these top five industries

Percentage of Employment
By Detailed Industry
New Jersey, 2020



At the national level, these same five industries make up roughly 72 percent of all health care employment

The health care cluster as a whole makes up 14.3 percent of all employment at the state level, up from 13.6 percent in 2012

Employment in general medical and surgical hospitals has increased by 5,759 jobs in New Jersey, but accounts for only 30 percent of all health care employment in 2020, down from 31.0 percent in 2012

- General Medical And Surgical Hospitals
- Offices Of Physicians
- Home Health Care Services
- Nursing Care Facilities
- Offices Of Dentists



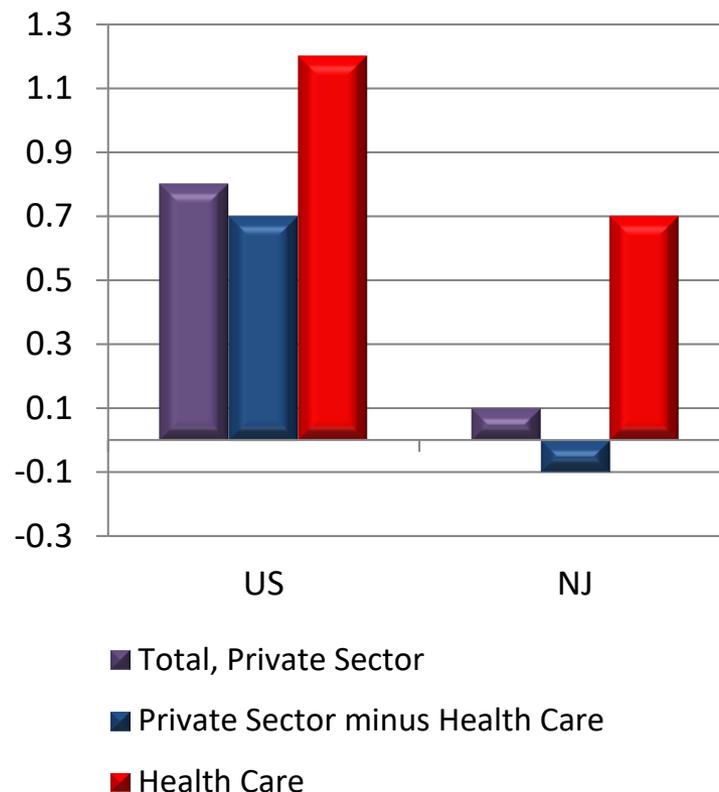
Employment in the health care cluster experienced steady growth of 5.8% in New Jersey from 2012 through 2020

Home Health Care Services and Offices of Physicians together added more than 11,800 workers from 2012 to 2020 as they attempted to keep with the demand for care from an aging Baby Boomer generation.

Nationally, these two industries added 517,209 jobs over the eight-year period.

Offices of Mental Health Practitioners were the fastest growing health care industry in New Jersey, adding over 1,952 jobs, or an annual rate of 12 percent

Annual Percentage Change in Employment
New Jersey, 2012-2020



Narrative explaining bubble chart

There are four elements of data depicted in the bubble chart on the next page:

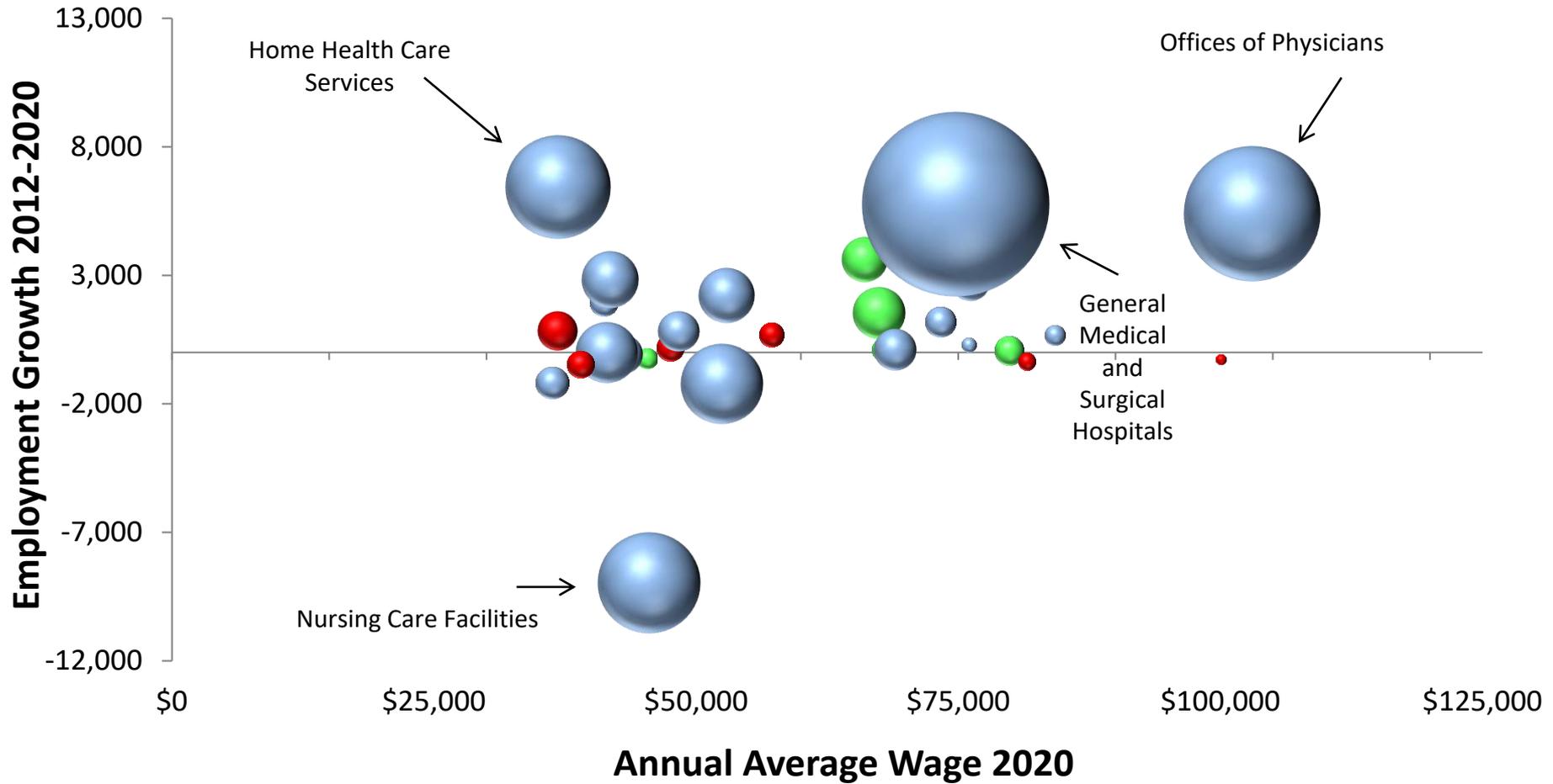
1. **Total 2020 employment** is represented by the **size** of the bubble
2. **Employment change from 2012-2020** is shown by the **position on the Y-axis**, or vertical position
3. **Annual average wages** in 2020 is shown by the **position on the X-axis**, or horizontal position
4. **Location quotient** is indicated by the **color** of the bubble
 - A **green bubble** signifies an industry with a location quotient over 1.2, which indicates that employment share in New Jersey is meaningfully greater than its counterpart at the national level
 - A **red bubble** signifies an industry with a location quotient less than 0.8, which indicates that employment share in New Jersey is meaningfully less than its counterpart at the national level
 - A **blue bubble** indicates that employment share is relatively equal at the state and national level



Employment size, growth, average salary, and location quotient of 30 industries that make up health care sector

Green bubble=LQ>1.2

Red bubble=LQ<0.8



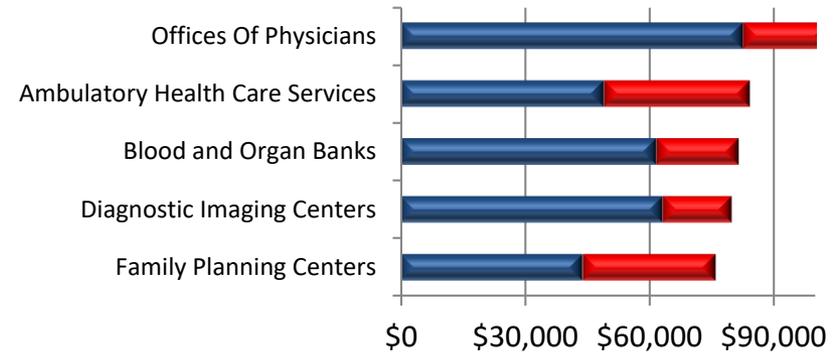
The annual average wage in New Jersey in the health care sector in 2020 was \$65,793 up from \$52,320 in 2012, an increase of \$13,475 or 2.9% per year

Nationally, the health care industry paid an annual average wage of \$61,826 in 2020, up 2.8% per year from \$49,450 in 2012

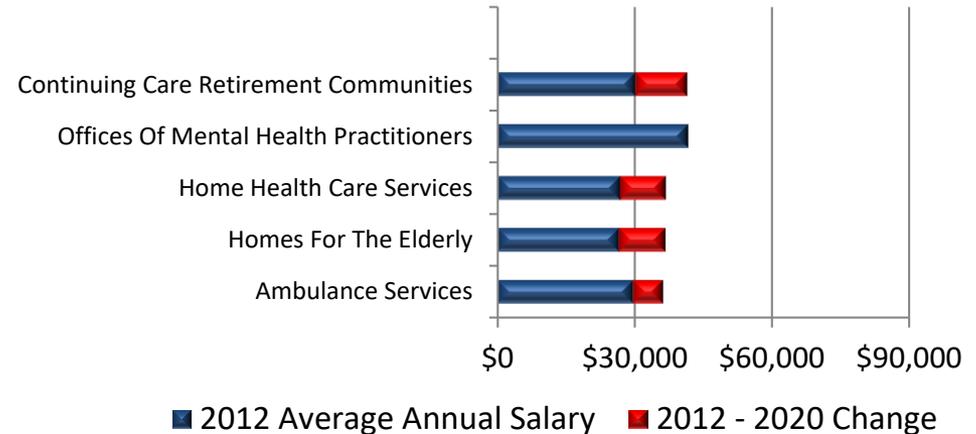
Generally, the highest paying industries provide outpatient services and non-emergency care, like diagnostic imaging and offices of doctors or other specialists

Many of the lowest paying industries are involved with care for the elderly

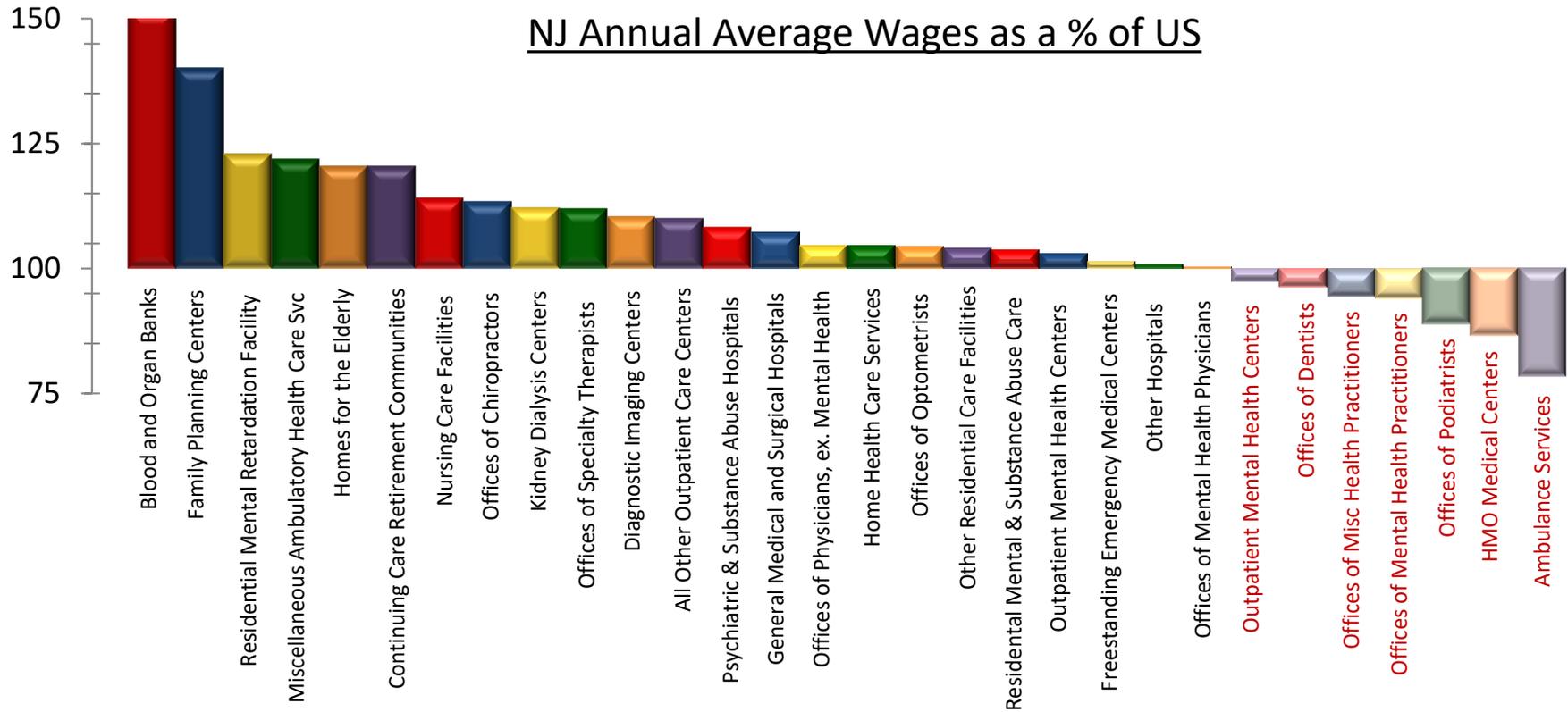
Highest Five Annual Average Wages, NJ, 2020



Lowest Five Annual Average Wages, NJ, 2020



23 out of 30 health care industries in New Jersey have a higher annual average wage than the nation. Overall, the sector paid 6.4% more in New Jersey in 2020 than nationally

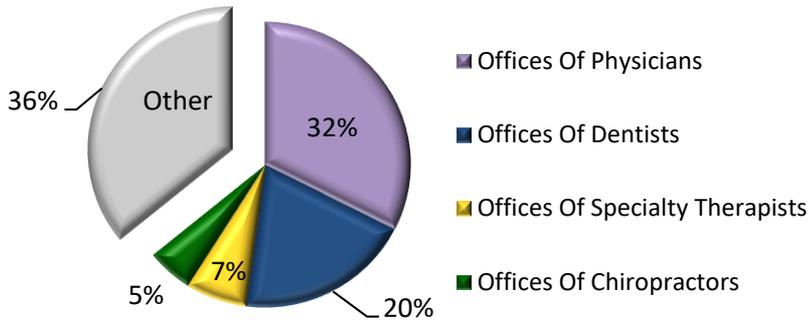


The wage disparity has decreased in 16 of the 30 industries since 2012, when the sector was paid an average of 5.8% more in New Jersey

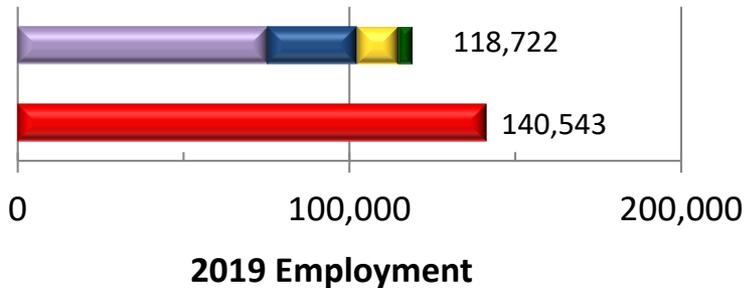


There were 22,995 health care establishments in New Jersey in 2020, employing 460,612 people

65% of all Health Care establishments fall into these four industries...



...yet the 116 General Medical and Surgical Hospitals (<1% of establishments) employed 30.5% of the Industry



From 2012 to 2020, New Jersey had a net increase of 1564 health care establishments, an increase of 0.9 percent annually (1.6 percent nationally)

Reflecting a nationwide trend from 2012 to 2020, the number of Freestanding Emergency Medical Centers in New Jersey increased from 219 to 412, a eight year increase of 88 percent

General Medical and Surgical Hospitals averaged nearly 1,124 employees per establishment in 2020

GEOGRAPHIC ANALYSIS



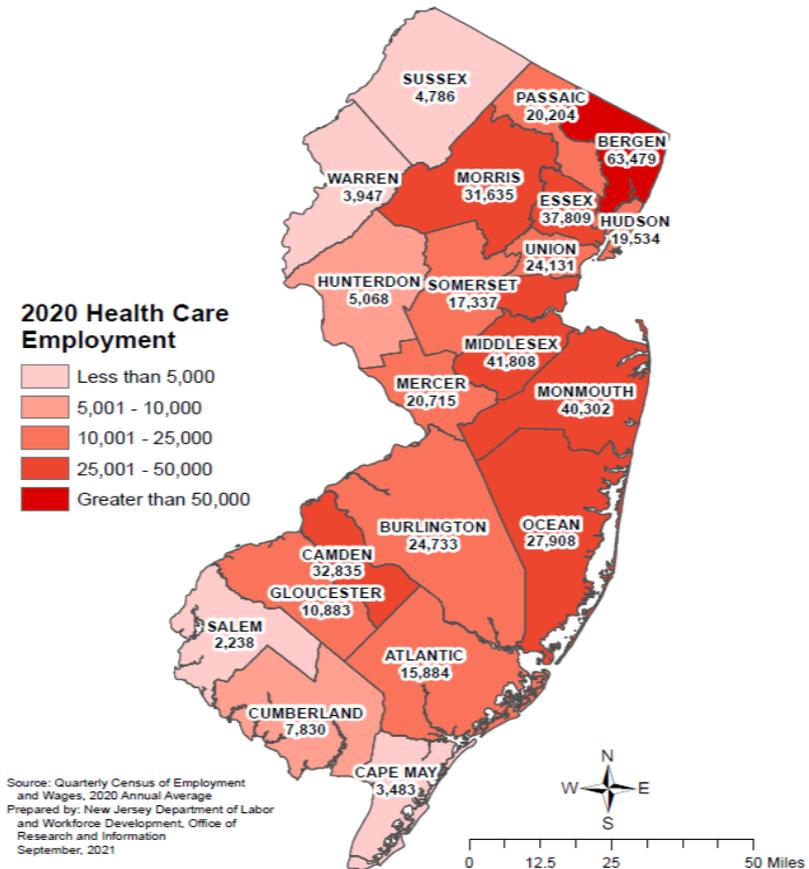
On average, New Jersey employs about one health care worker for every twenty of its residents

Health Care Population to Employment Ratio

Bergen	14.7	Cumberland	18.8	Passaic	24.8
Monmouth	15.3	Somerset	19.0	Cape May	26.3
Camden	15.4	Middlesex	19.7	Warren	26.8
Morris	15.5	Essex	21.2	Gloucester	26.9
Atlantic	16.6	Ocean	22.0	Salem	27.9
Mercer	17.7	Union	23.0	Sussex	29.3
Burlington	18.1	Hunterdon	24.6	Hudson	34.4

While health care employment by county tends to mirror population, there are outliers. Bergen, Monmouth and Camden Counties employ a disproportionately high number of workers to serve its population, and may be viewed as service exporters. Conversely, Hudson and Sussex Counties have fewer workers per resident and may be more reliant on surrounding areas for health care service.

Health Care Employment New Jersey Counties (2020 Annual Averages)



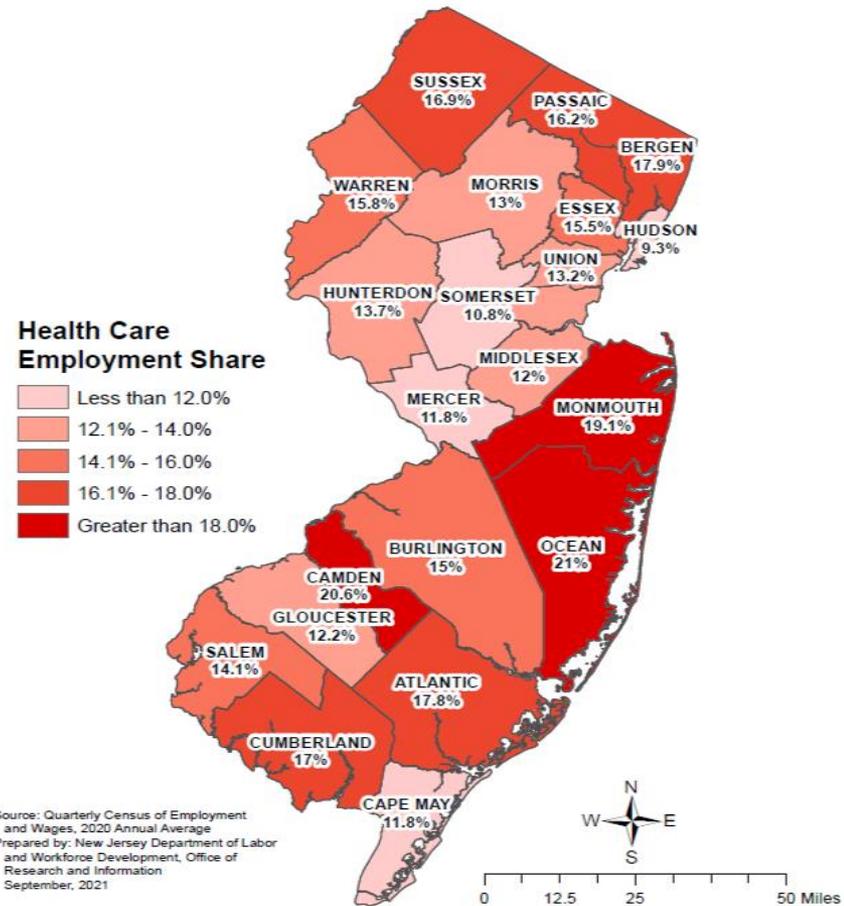
While each county has a very different industrial mix, some are more reliant than others on health care employment

Health Care Share of Total County Employment

Ocean	21%	Passaic	16.2%	Morris	13%
Camden	20.6%	Warren	15.8%	Gloucester	12.2%
Monmouth	19.1%	Essex	15.5%	Middlesex	12%
Bergen	17.9%	Burlington	15%	Mercer	11.8%
Atlantic	17.8%	Salem	14.1%	Cape May	11.8%
Cumberland	17%	Hunterdon	13.7%	Somerset	10.8%
Sussex	16.9%	Union	13.2%	Hudson	9.3%

Ocean and Camden Counties have the largest proportion, roughly 1 of every 5, of their employment in some form of health care. Hudson, Somerset and Cape May have very different compositions and engage less than 12 percent of total employment in the health care industry.

Health Care Employment as a Percentage of Total County Employment



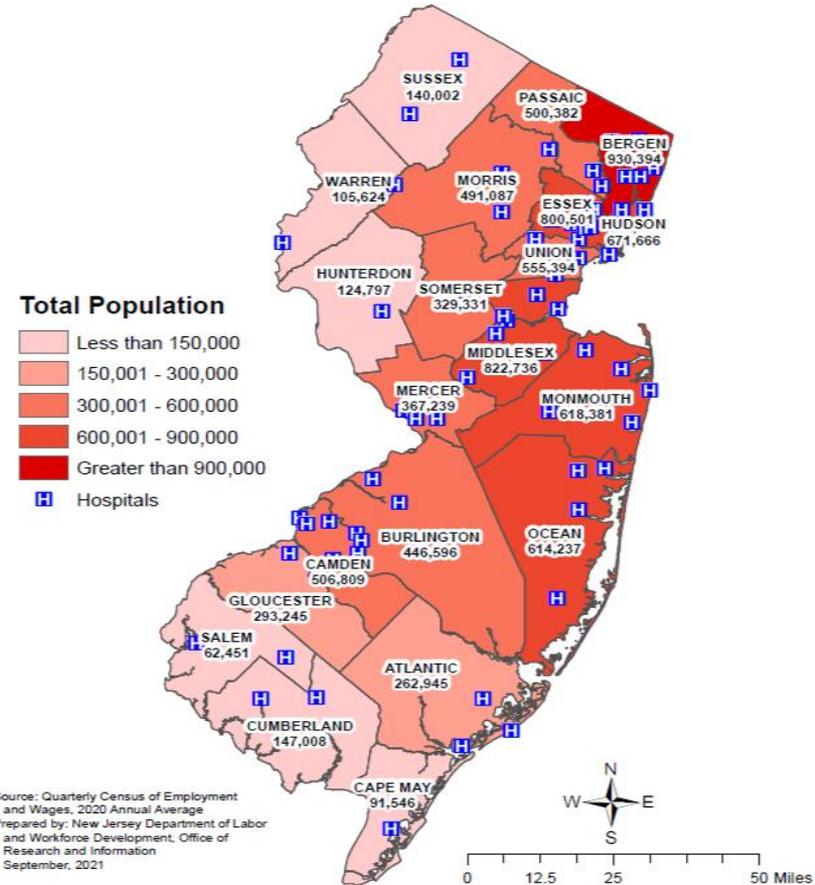
There are 75 hospitals in New Jersey that serve the state's population of nearly 8.9 million residents

Number of Hospitals by County

Essex	9	Mercer	4	Passaic	2
Middlesex	7	Morris	4	Salem	2
Bergen	6	Ocean	4	Sussex	2
Hudson	6	Atlantic	3	Warren	2
Camden	5	Union	3	Cape May	1
Monmouth	5	Cumberland	2	Hunterdon	1
Burlington	4	Gloucester	2	Somerset	1

The hospital locations tend to be clustered around the state's two primary highways, the New Jersey Turnpike (Interstate 95) and the Garden State Parkway, and near high population centers across state boundaries from New York City and Philadelphia.

*Hospital Locations and County Population
New Jersey, 2020*



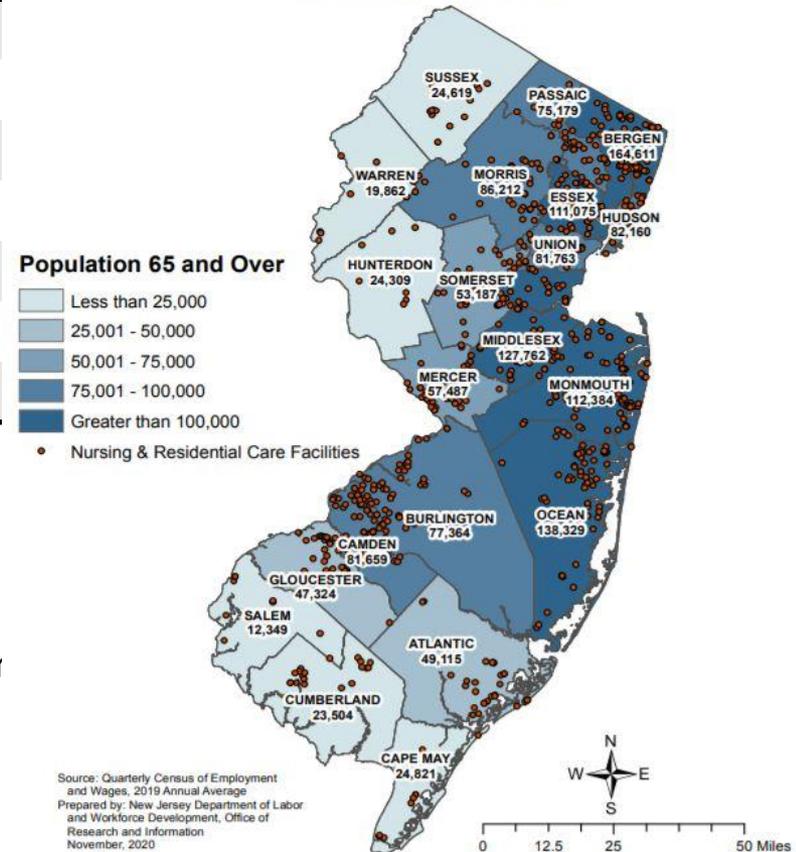
New Jersey's aging population has created increased demand for health care services, especially in the areas of nursing and residential care

Percentage of County Population Aged 65 and Over

Cape May	26.6%	Sussex	17.3%	Cumberland	15.3%
Ocean	22.5%	Bergen	17.2%	Mercer	15.1%
Salem	18.6%	Morris	17.1%	Middlesex	15.0%
Hunterdon	18.5%	Burlington	16.9%	Passaic	14.5%
Warren	18.2%	Gloucester	15.8%	Union	14.4%
Atlantic	17.9%	Camden	15.7%	Essex	13.6%
Monmouth	17.6%	Somerset	15.6%	Hudson	11.8%

Nursing and residential care facilities are well positioned throughout the state, providing coverage to even the less populated areas. Clusters of locations are found near the population centers and along the coast, where a larger share of those aged 65 and over reside.

Nursing and Residential Care Facility Locations and County Population 65 and Over New Jersey, 2019



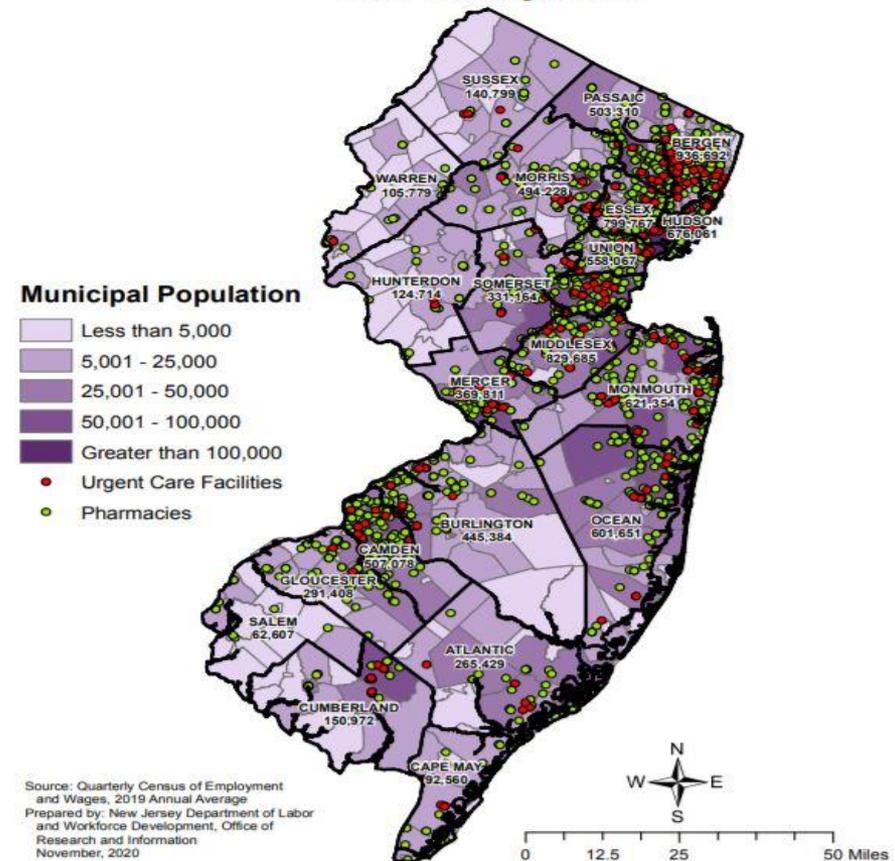
Urgent care facilities and pharmacies provide support to the health care system and their proximity can be a large convenience to residents

The number of urgent care facilities (a.k.a. freestanding emergency medical centers) has nearly doubled from 139 in 2004 to 306 in 2019. These centers provide triage care for non life-threatening emergencies and alleviate the stress on traditional emergency rooms in hospitals

Employment in these urgent care facilities nearly tripled from 2,712 in 2004 to 7,418 in 2018 as their popularity continues to spread

The number of pharmacies has increased by more than 66 percent from 2004 to 2019, and most New Jersey residents now live within a short drive of the nearest location

Urgent Care Facility and Pharmacy Locations and Municipal Population New Jersey, 2019



There are ten hospitals with trauma centers in New Jersey; three level 1 and seven level 2

Trauma is any physical injury caused by violence or other forces. The three types of serious trauma are penetrating, blunt, or burns. Trauma centers are specially equipped hospital where the immediate availability of specialized personnel, equipment and capabilities is guaranteed 24 hours a day.

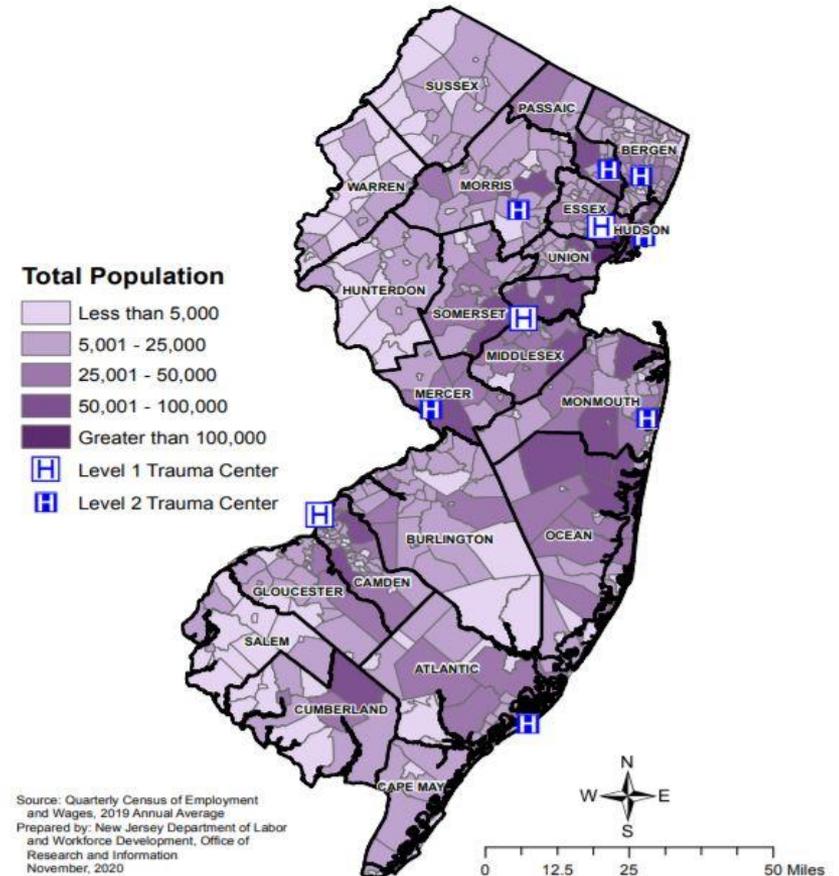
Level 1 trauma centers must treat a minimum of 600 patients per year and are university-affiliated teaching hospitals:

- ❖ University Hospital, Newark
- ❖ Robert Wood Johnson Hospital, New Brunswick
- ❖ Cooper Hospital, Camden

Level 2 trauma centers also provide definitive trauma care and must treat a minimum of 350 patients per year:

- ❖ Hackensack University Medical Center, Hackensack
- ❖ St. Joseph's Hospital, Paterson
- ❖ Jersey City Medical Center, Jersey City
- ❖ Morristown Memorial Hospital, Morristown
- ❖ Capital Health System at Fuld, Trenton
- ❖ Jersey Shore Medical Center, Neptune
- ❖ AtlantiCare Regional Medical Center, Atlantic City

**Trauma Center Locations and Municipal Population
New Jersey, 2019**



This map shows the general proximity of each of the ten trauma centers to the population of the state's municipalities

82 percent of the state's population resides in municipalities within 25 miles of a level 1 trauma center, and 96 percent live within 25 miles of either a level 1 or level 2 trauma center

There are gaps in coverage in the more sparsely populated northwest and extreme southern parts of the state

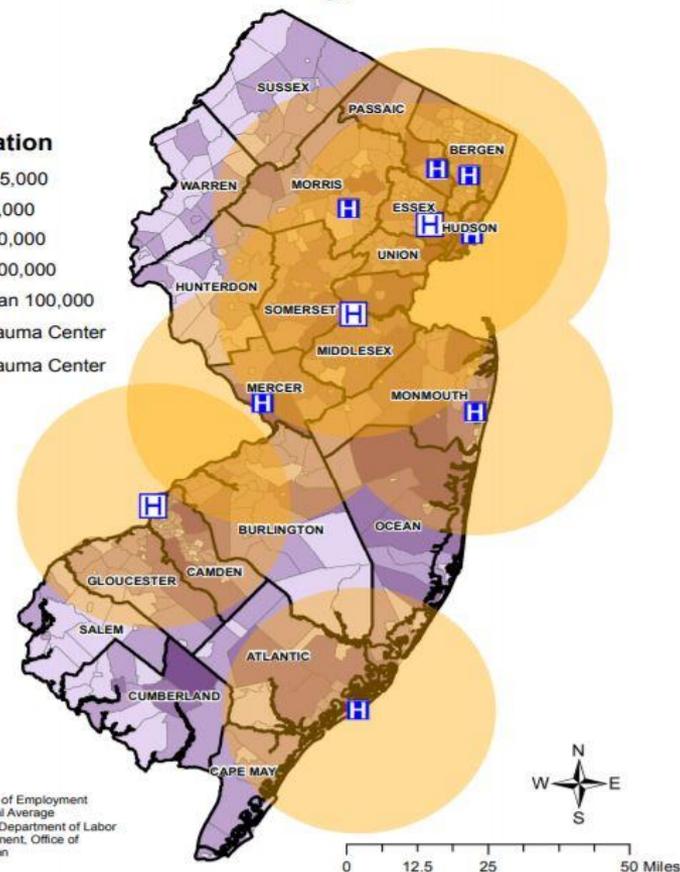
The only municipality of more than 50,000 outside the 25 mile radius is Vineland in Cumberland County. Neighboring cities of Millville and Bridgeton, each with more than 25,000 residents, are also located outside the 25 mile radius

*25 Mile Radius Around Trauma Center Locations and Municipal Population
New Jersey, 2019*

Total Population

- Less than 5,000
- 5,001 - 25,000
- 25,001 - 50,000
- 50,001 - 100,000
- Greater than 100,000

- Level 1 Trauma Center
- Level 2 Trauma Center



Source: Quarterly Census of Employment and Wages, 2019 Annual Average
Prepared by: New Jersey Department of Labor and Workforce Development, Office of Research and Information
November, 2020

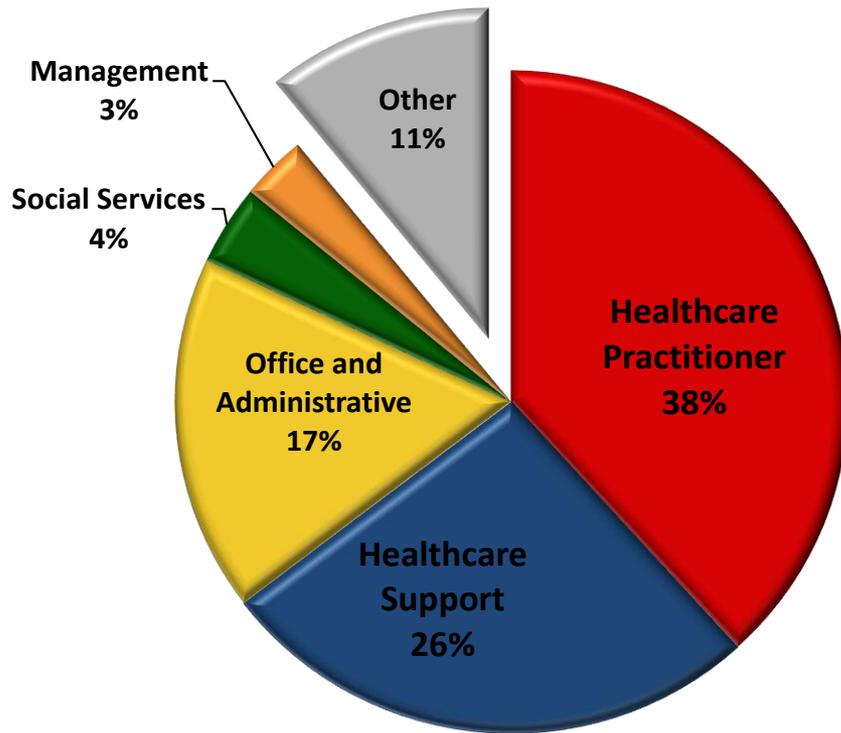


OCCUPATIONAL ANALYSIS



Nearly-thirds of workers in the health care industry are directly involved with patient care in 2020

Breakdown of Major Occupational Groups within
Health Care Industry:
New Jersey, 2020



Office and administrative occupations are the third largest group, employing about one-fifth of the health care workforce. Receptionists, medical secretaries and billing clerks are the most prominent occupations

Social sciences and food related occupations make up a relatively small, but integral portion of the workforce

Most of the remainder of the workforce is comprised of food preparation/serving and service related occupations



The top twenty occupations found in health care make up more than two-thirds of all employment in the industry

Occupation	2020 Employment	Share of Industry	Average Salary	Minimum Educational Requirement
Total All Health Care Occupations	466,200	100.0%	\$63,028	
Top 20 Occupations	313,110	67.2%	\$63,469	
Registered Nurses	68,610	14.7%	\$82,517	Bachelor's degree
Nursing Assistants	40,040	8.6%	\$33,435	Postsecondary nondegree award
Home Health Aides	37,160	8.0%	\$28,585	No formal educational credential
Receptionist and Information Clerks	30,830	6.6%	\$33,813	High school diploma or equivalent
Medical Assistants	16,150	3.5%	\$36,320	Postsecondary nondegree award
Licensed Practical and Licensed Vocational Nurses	14,130	3.0%	\$57,769	Postsecondary nondegree award
Physicians and Surgeons	13,870	3.0%	\$229,060	Doctoral or professional degree
Medical and Health Services Managers	9,940	2.1%	\$117,099	Bachelor's degree
Medical Secretaries	9,450	2.0%	\$40,265	High school diploma or equivalent
Food Servers, Nonrestaurant	8,280	1.8%	\$28,643	No formal educational credential
Maids and Housekeeping Cleaners	8,080	1.7%	\$31,515	No formal educational credential
Dental Assistants	7,800	1.7%	\$49,224	Postsecondary nondegree award
Supervisors of Office and Admin Support Workers	7,270	1.6%	\$63,610	High school diploma or equivalent
Billing and Posting Clerks	6,800	1.5%	\$45,195	High school diploma or equivalent
Clinical Laboratory Technologists and Technicians	6,720	1.4%	\$66,069	Bachelor's degree
Physical Therapists	6,470	1.4%	\$101,631	Doctoral or professional degree
Dental Hygienists	5,670	1.2%	\$85,821	Associate's degree
Nurse Practitioners	5,440	1.2%	\$135,430	Doctoral or professional degree
Radiologic Technologists and Technicians	5,270	1.1%	\$70,638	Associate's degree
Substance Abuse, Mental Health Counselors	5,130	1.1%	\$58,656	Bachelor's degree



Health Care Practitioner



Health Care Support

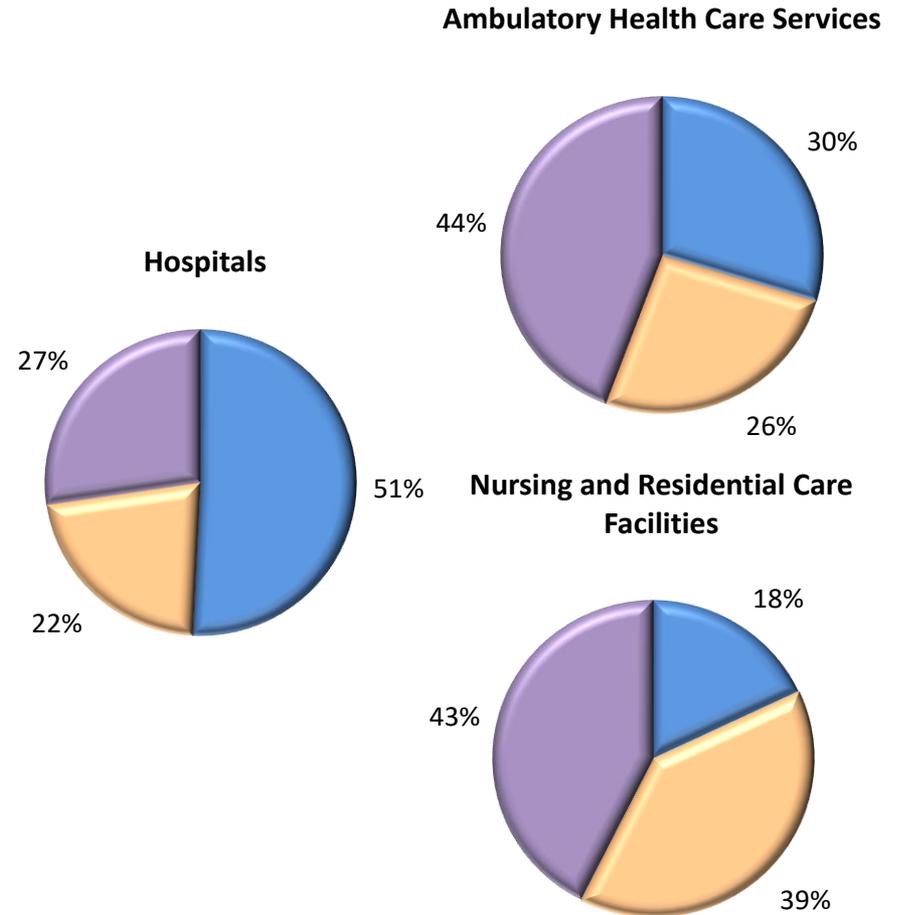


Office & Administrative



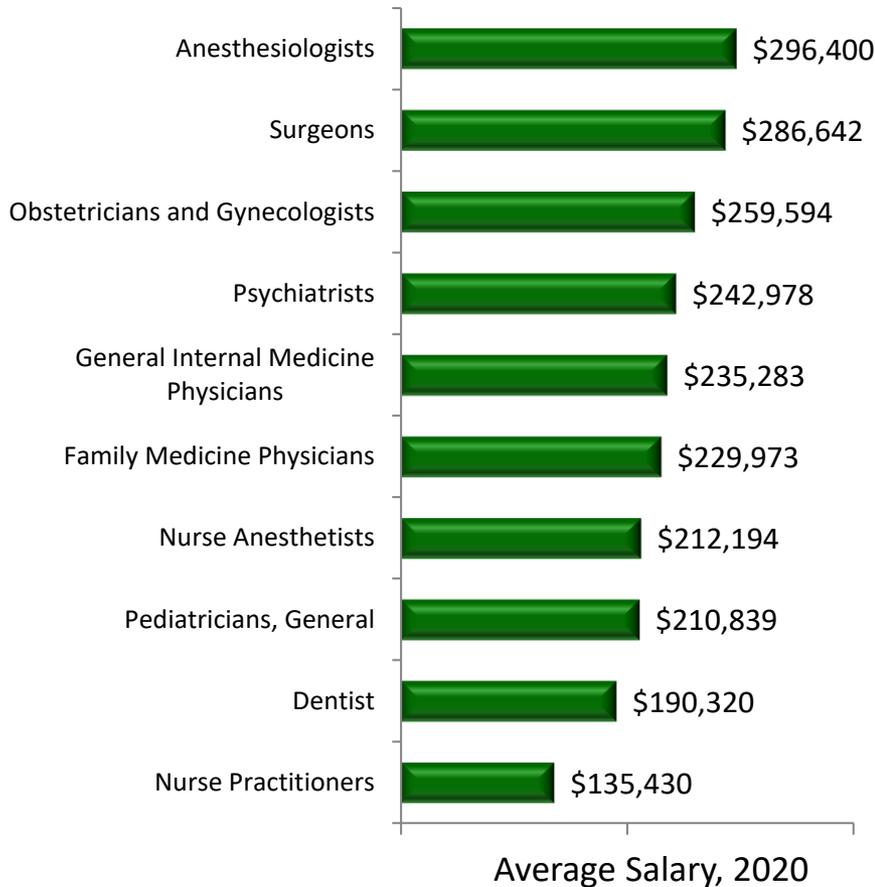
The health care sector offers opportunities for employment for all levels of education and experience...

Minimum Education Requirements	2020 Employment	% of Total
Total Health Care Occupations	466,200	100.0%
Total High Requirements	159,130	34.7%
Doctoral or professional degree	35,710	7.8%
Master's degree	18,350	4%
Bachelor's degree	105,070	22.9%
Total Moderate Requirements	124,310	27.1%
Associate's degree	24,270	5.3%
Postsecondary nondegree award	97,930	21.4%
Some college, no degree	2,110	0.5%
Total Low Requirements	174,770	38.1%
High school diploma or equivalent	150,940	32.9%
No formal educational credential	23,830	5.2%

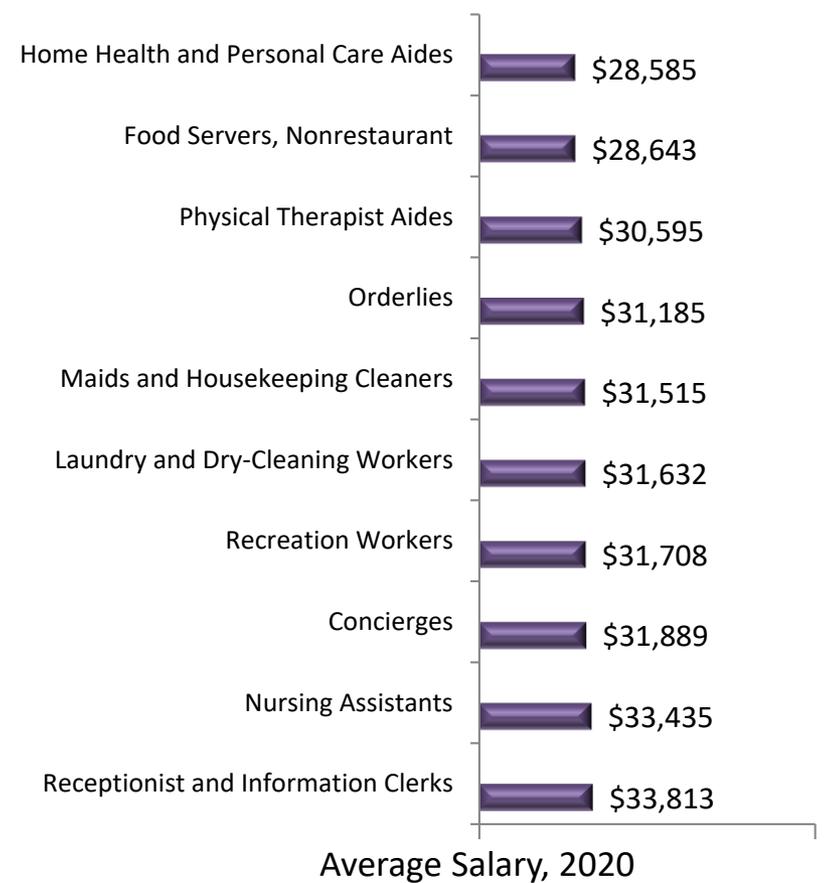


...and the average salary can vary greatly among a myriad of different occupations

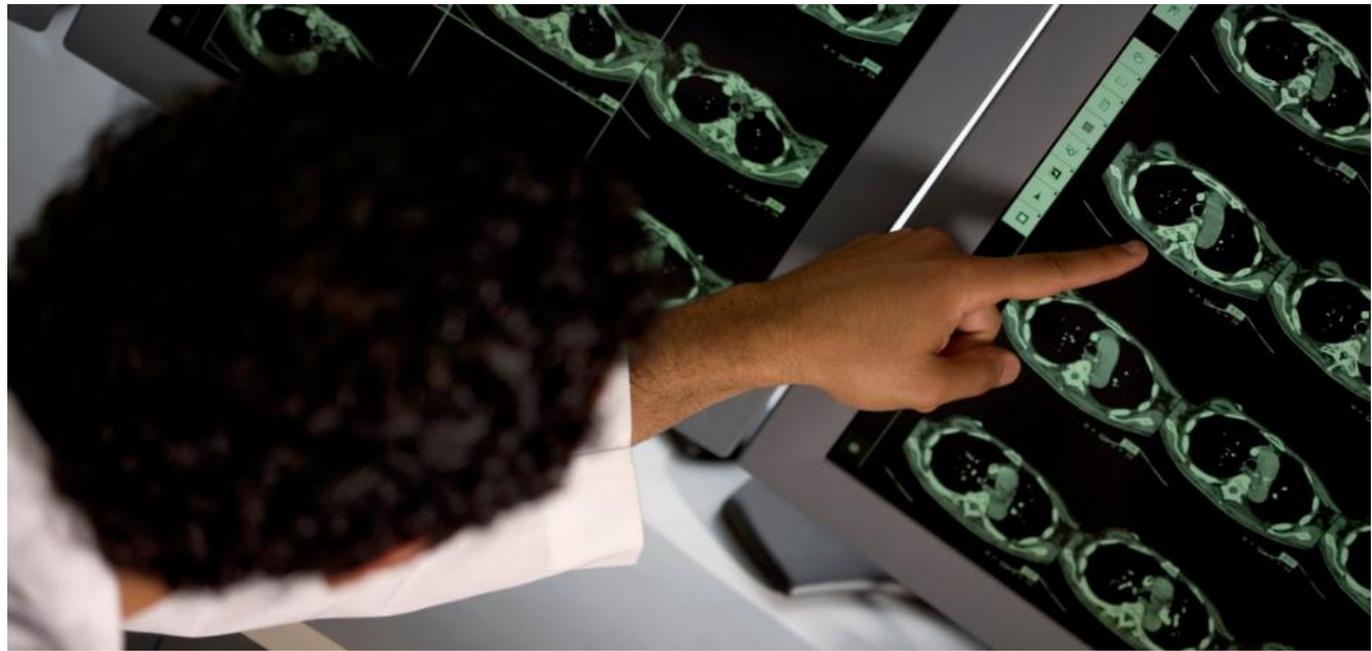
Occupations on the Higher End of the Salary Scale



Occupations on the Lower End of the Salary Scale



DEMOGRAPHIC PROFILE



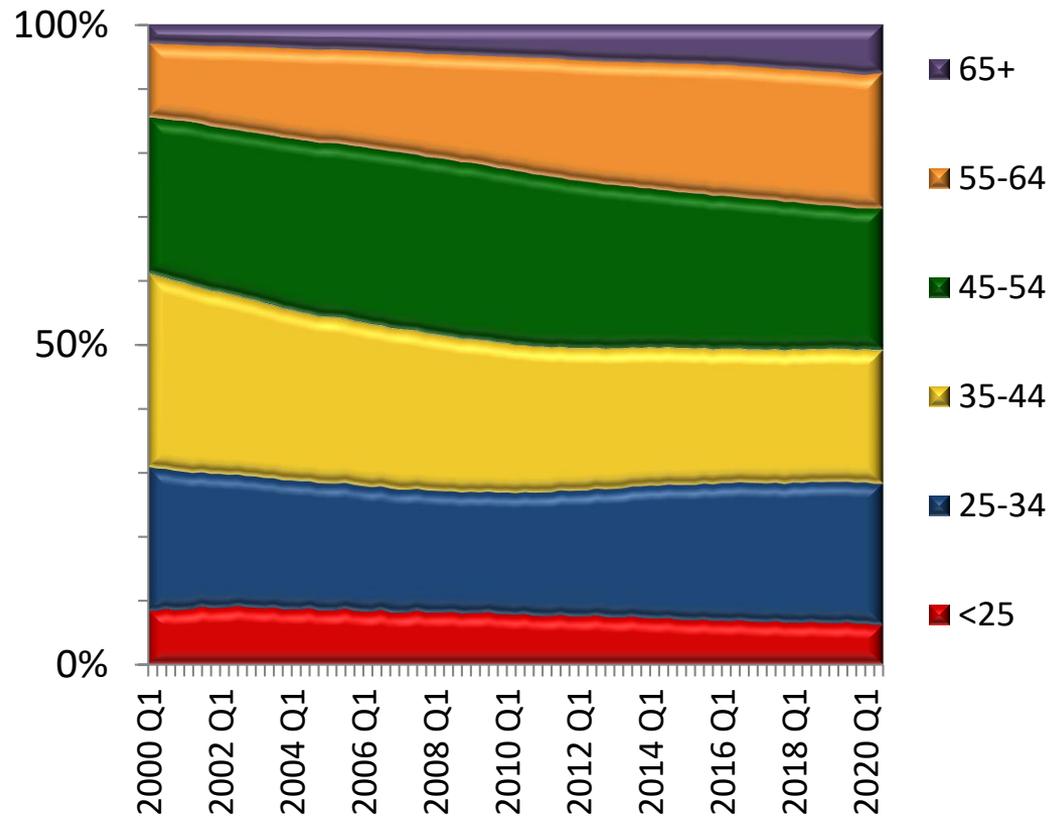
Data shows a steady and gradual change toward an older workforce in nearly every age cohort

The number of healthcare workers aged 65 and older has tripled from 2000 to 2020

From 2000 to 2020, the number of workers aged 55-64 has increased by more than 56,300

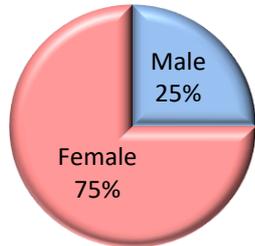
The only age cohort with significantly fewer workers in 2020 than in 2000 were those between the ages of 35-44 (-8,894)

Breakdown of Workforce by Age
New Jersey: 2000-2020

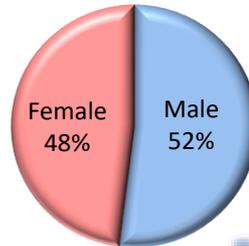


Gender, racial, and ethnic profile of New Jersey residents within health care workforce

Health Care



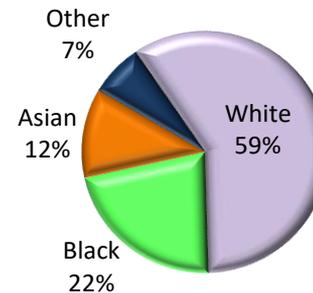
All Industries



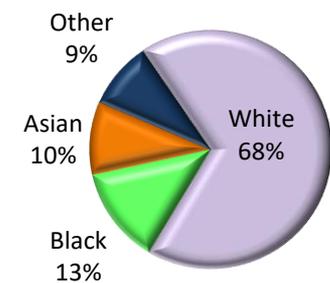
Females outnumber males by a 3 to 1 margin in the health care workforce

The workforce is more diverse than average, particularly among the black and Asian populations

Health Care

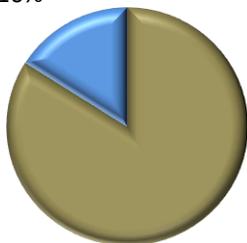


All Industries

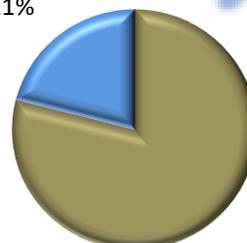


The workforce has just slightly fewer Hispanics than average

Health Care



All Industries



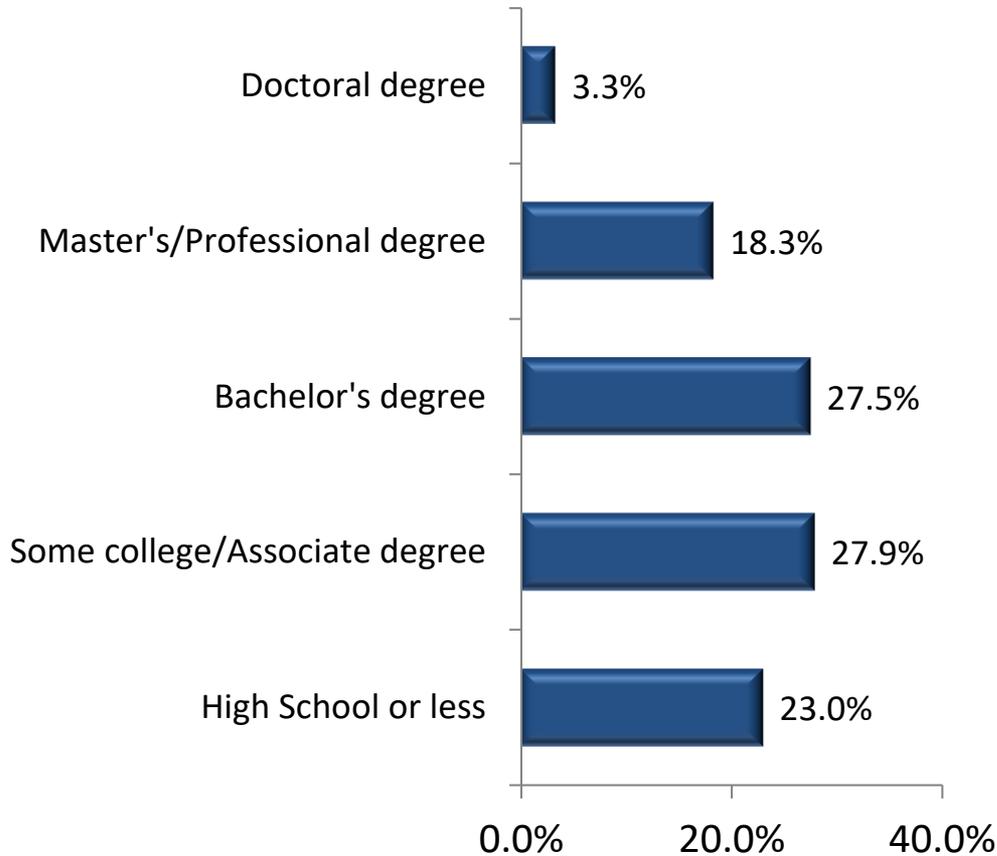
Health Care

All Industries

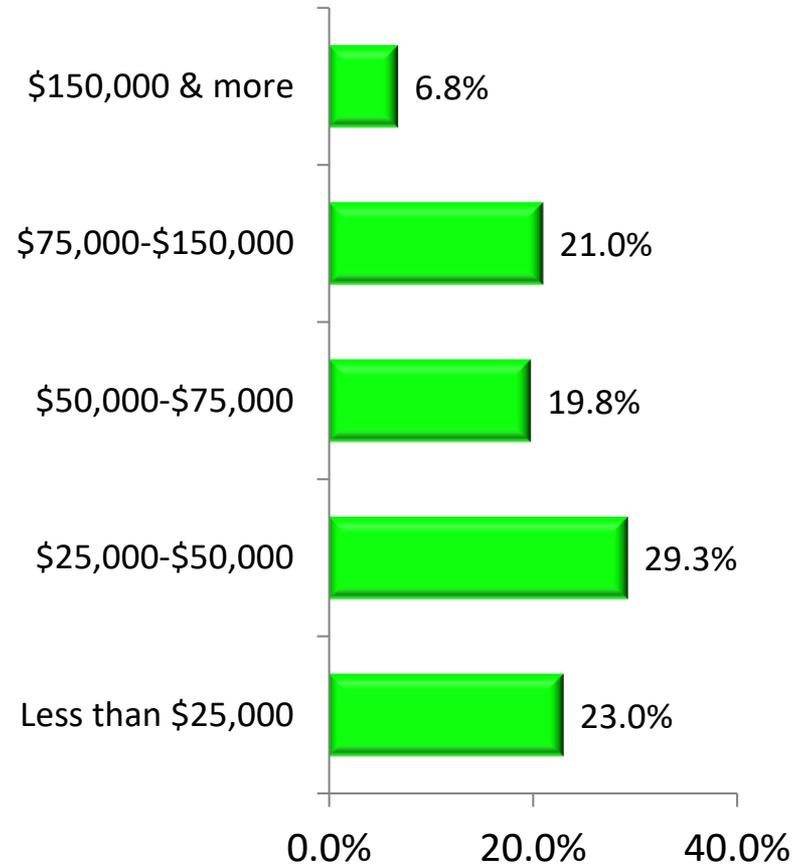


Employment status and personal earnings of NJ residents in the health care industry

Education Level



Personal Earnings

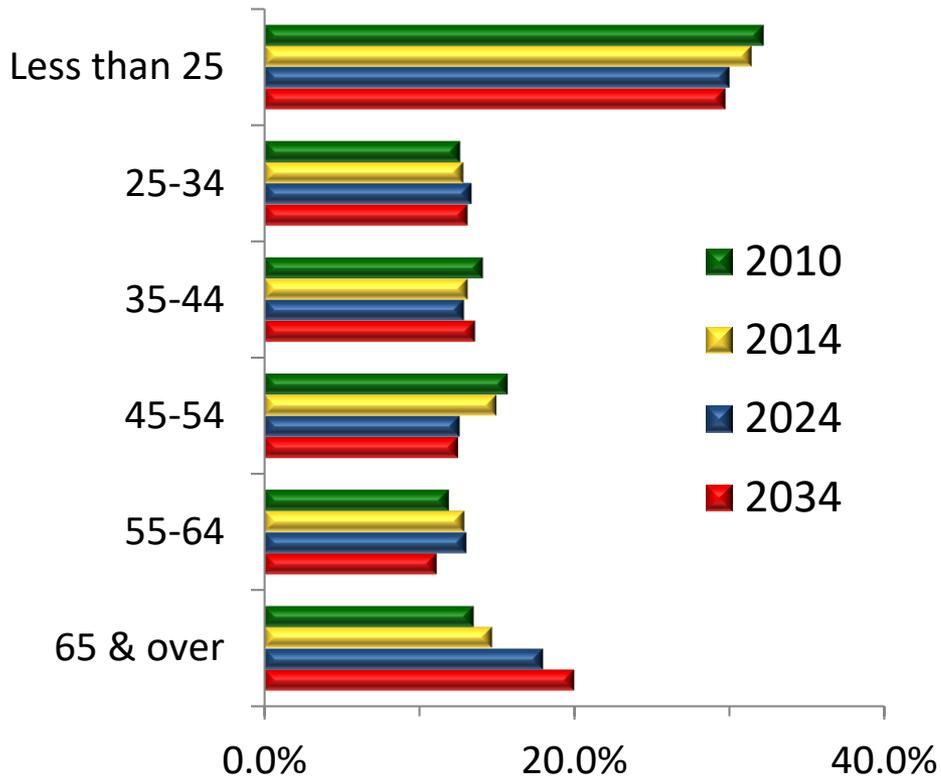


OUTLOOK



The aging population of Baby Boom generation will continue to increase demand for the health care industry

Population Estimates and Projections in New Jersey
2010-2034



The percentage of New Jersey residents aged 65 or over are projected to reach 20 percent by 2034

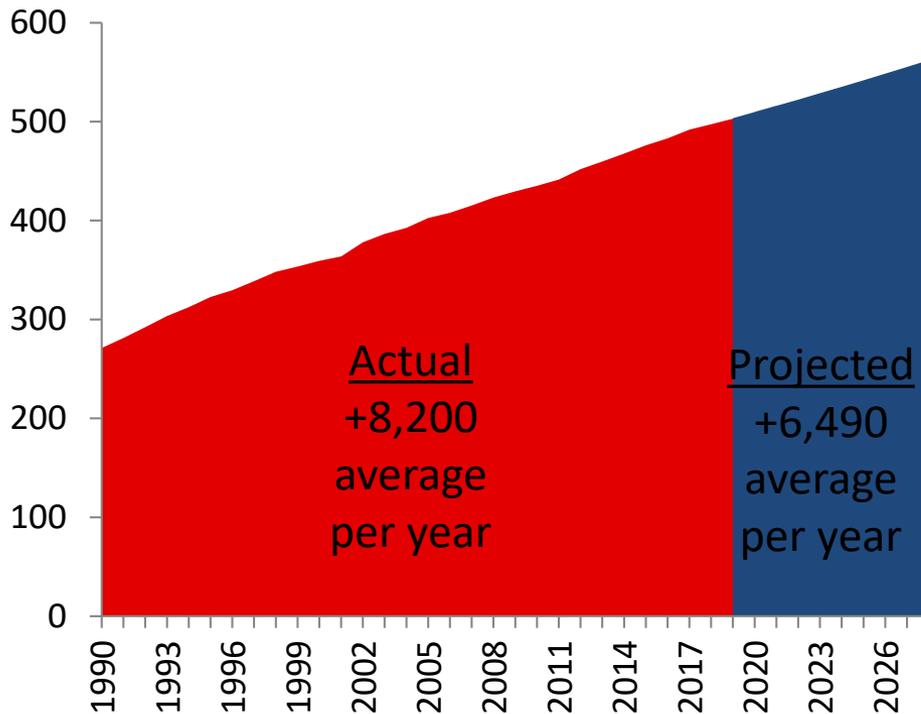
The working age (aged 25-64) population is projected to decline from 54 percent in 2010 to 50 percent in 2034

As the Baby Boomer generation continues to age, the demands they will place on the health care system will drive employment higher

This should result in large increases in employment for areas such as gerontology, physical therapy and residential and nursing home care

The health care industry has steadily gained employment over the last 30 years and will continue that trend through 2028

Actual and Projected Employment in Health Care (thousands):
New Jersey, 1990-2028



Employment is still growing, but rate of growth is slowing:

- Grew by 3 percent per year during 1990s
- Grew by 2 percent per year during 2000s
- *Projected to grow by 1.2 percent from 2018-2028*

There will be many opportunities for employment as the industry struggles to increase its workforce for growing demand while also replacing workers who will retire

The health care cluster is projected to add roughly 64,860 jobs, and account for more than 28 percent of net job growth in New Jersey from 2016-2028



All three components of the health care industry are projected to experience employment gains through 2028

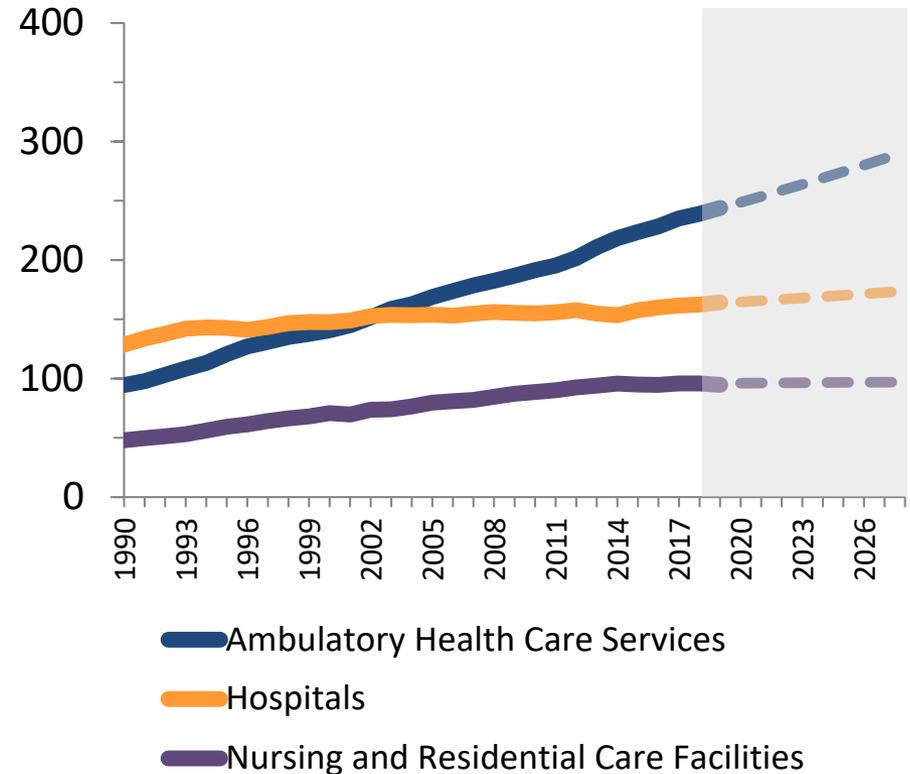
Ambulatory health care services became the largest component in 2003 and will continue to grow at a robust annual rate of 2 percent, adding roughly 52,300 jobs from 2016 through 2028

The hospital component is the slowest growing segment and is projected to add only 11,390 through 2028, at an annual rate of 0.7 percent

Nursing and residential care facilities has experienced steady and above average gains since 1990, and will continue on this trend as the aging Baby Boomer population increases demand for these services

Gray area denotes projected period from 2018-2028

Employment and Projected Estimates by Health Care Component
New Jersey: 1990-2028



THIS WORKFORCE PRODUCT WAS FUNDED BY A GRANT AWARDED BY THE U.S. DEPARTMENT OF LABOR'S EMPLOYMENT AND TRAINING ADMINISTRATION. THE PRODUCT WAS CREATED BY THE RECIPIENT AND DOES NOT NECESSARILY REFLECT THE OFFICIAL POSITION OF THE U.S. DEPARTMENT OF LABOR. THE DEPARTMENT OF LABOR MAKES NO GUARANTEES, WARRANTIES, OR ASSURANCES OF ANY KIND, EXPRESS OR IMPLIED, WITH RESPECT TO SUCH INFORMATION, INCLUDING ANY INFORMATION ON LINKED SITES AND INCLUDING, BUT NOT LIMITED TO, ACCURACY OF THE INFORMATION OR ITS COMPLETENESS, TIMELINESS, USEFULNESS, ADEQUACY, CONTINUED AVAILABILITY, OR OWNERSHIP. THIS PRODUCT IS COPYRIGHTED BY THE INSTITUTION THAT CREATED IT. INTERNAL USE BY AN ORGANIZATION AND/OR PERSONAL USE BY AN INDIVIDUAL FOR NON-COMMERCIAL PURPOSES IS PERMISSIBLE. ALL OTHER USES REQUIRE THE PRIOR AUTHORIZATION OF THE COPYRIGHT OWNER.